

This listing of claims will replace all prior versions and listings of claims in the application:

11. (currently amended) A reducing composition for permanent deformation of hair comprising at least one reducing agent chosen from N-substituted formamidinesulphinic acid derivatives of formula (I), the inorganic salts thereof, and the organic salts thereof:



R1, R2, and R3, which are identical or different, are each chosen from hydrogen; amino groups; C<sub>1</sub> to C<sub>8</sub> aminoiminoalkyl groups; imino groups; C<sub>1</sub> to C<sub>8</sub> aminoalkyl groups; guanidino groups; C<sub>1</sub> to C<sub>8</sub> linear alkyl groups; C<sub>1</sub> to C<sub>8</sub> branched alkyl groups; C<sub>2</sub> to C<sub>8</sub> linear alkenyl groups; C<sub>2</sub> to C<sub>8</sub> branched alkenyl groups; C<sub>7</sub> to C<sub>20</sub> aralkyl groups; and C<sub>3</sub> to C<sub>20</sub> rings, optionally chosen from aromatic rings, and optionally comprising at least one heteroatom chosen from halogens, nitrogen, oxygen, and sulphur-phenyl groups optionally substituted by at least one group chosen from halogens, C<sub>1</sub> to C<sub>4</sub> alkyl groups, C<sub>1</sub> to C<sub>4</sub> alkoxy groups, and hydroxyl groups; and

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with the proviso that when R<sub>1</sub> is hydrogen or C<sub>1</sub> to C<sub>4</sub> alkyl, then R<sub>2</sub> and R<sub>3</sub> are not simultaneously hydrogen, or hydrogen and C<sub>1</sub> to C<sub>4</sub> alkyl,

the composition further comprising at least one additive chosen from reducing agents other than said at least one reducing agent; surface-active agents chosen from nonionic surface-active agents, anionic surface-active agents, cationic surface-active agents, and amphoteric surface-active agents; treating agents chosen from cationic treating agents, anionic treating agents, nonionic treating agents, and amphoteric treating agents; fatty alcohols; lanolin derivatives; active ingredients; agents for combating hair loss; antidandruff agents; thickeners; suspending agents; sequestering agents; opacifying agents; colorants; sunscreen agents; fragrances; and preservatives.

12. (currently amended) A composition according to Claim 11, wherein said R<sub>1</sub>, R<sub>2</sub>, and R<sub>3</sub>, which are identical or different, are each chosen from hydrogen; linear C<sub>1</sub> to C<sub>6</sub> alkyl groups optionally substituted by at least one group chosen from hydroxyl groups, carboxyl groups, amino groups, sulphonyl groups, and phosphonyl groups; branched C<sub>1</sub> to C<sub>6</sub> alkyl groups optionally substituted by at least one group chosen from hydroxyl groups, carboxyl groups, amino groups, sulphonyl groups, and phosphonyl groups; phenyl groups optionally substituted by at least one group chosen from halogens, C<sub>1</sub> to C<sub>4</sub> alkyl groups, C<sub>1</sub> to C<sub>4</sub> alkoxy groups, and hydroxyl groups; heterocycles; and guanidino groups.

13. (cancelled)

14. (currently amended) A composition according to Claim 11, wherein said at least one reducing agent is chosen from:

- (dimethylamino)iminomethanesulphinic acid;
- (diethylamino)iminomethanesulphinic acid;
- (phenylamino)(phenylimino)methanesulphinic acid;
- (phenylmethylamino)(phenylmethylimino)methanesulphinic acid;
- (carboxymethylamino)iminomethanesulphinic acid;
- (2-carboxyethylamino)iminomethanesulphinic acid;
- (3-carboxypropylamino)iminomethanesulphinic acid;
- (5-carboxypentylamino)iminomethanesulphinic acid;
- (hydroxymethylamino)iminomethanesulphinic acid;
- (2-aminoethylamino)iminomethanesulphinic acid;
- imino(sulphonylmethylamino)methanesulphinic acid;
- imino(2-sulphonylpropylamino)methanesulphinic acid;
- imino(2-phosphonylmethylamino)methanesulphinic acid;
- imino(phenylamino)methanesulphinic acid;
- imino(4-methylphenylamino)methanesulphinic acid;
- imino(4-hydroxyphenylamino)methanesulphinic acid;
- imino(4-methoxyphenylamino)methanesulphinic acid;
- imino(2-chlorophenylamino)methanesulphinic acid;
- ~~— imino(4-methyl-2-pyridylamino)methanesulphinic acid;~~
- ~~— imino(6-methyl-2-pyridylamino)methanesulphinic acid;~~
- ~~— imino(5-methyl-2-pyridylamino)methanesulphinic acid;~~

~~— imino(2-quinolylamino)methanesulphinic acid;~~  
~~— imino(3-quinolylamino)methanesulphinic acid;~~  
~~— (methylimino)-2-pyridylaminomethanesulphinic acid;~~  
~~— (methylimino)[(3,4,5,6-tetrahydro-2-pyridyl)amino]methanesulphinic acid; and~~  
- [(aminoiminomethyl)amino]iminomethanesulphinic acid.

15. (previously presented) A composition according to Claim 11, wherein said at least one reducing agent is chosen from:

- (carboxymethylamino)iminomethanesulphinic acid; and
- imino(phenylamino)methanesulphinic acid.

16. (previously presented) A composition according to Claim 11, wherein said at least one reducing agent is present in an amount ranging from 0.05% to 20% by weight with respect to the total weight of said composition.

17. (previously presented) A composition according to Claim 11, wherein said at least one reducing agent is present in an amount ranging from 0.1% to 8% by weight with respect to the total weight of said composition.

18. (previously presented) A composition according to Claim 11, wherein said composition has a pH ranging from 2 to 11.

19. (previously presented) A composition according to Claim 11, wherein said composition has a pH ranging from 7 to 10.

Claim 20 (canceled).

21. (previously presented) A composition according to Claim 11, wherein said reducing agents other than said at least one reducing agent are chosen from thioglycolic acid; glyceryl monothioglycolate; glycol monothioglycolate; cysteamine; C<sub>1</sub> to C<sub>4</sub> acylated derivatives of cysteamine; cysteine; N-acetylcysteine; N-mercaptoalkylamides of sugars;  $\beta$ -mercaptopropionic acid; derivatives of  $\beta$ -mercaptopropionic acid; thiolactic acid; thioalactic esters; thiomalic acid; panthetheine; thioglycerol; sulphites of at least one alkali metal; sulphites of at least one alkaline earth metal; bisulphites of at least one alkali metal; bisulphites of at least one alkaline earth metal; N-(mercaptoalkyl)-o-hydroxyalkylamides; N-monoalkylmercapto-4-butyramides; N,N-dialkylmercapto-4-butyramides; aminomeraptoalkylamides; and alkylaminomeraptoalkylamides.

22. (previously presented) A composition according to Claim 21, wherein said derivatives of cysteamine are chosen from N-acetylcysteamine and N-propionylcysteamine.

23. (previously presented) A composition according to Claim 21, wherein said N-mercaptoalkylamides of sugars are chosen from N-(2-mercaptoethyl)-gluconamide.

24. (previously presented) A composition according to Claim 21, wherein said thioalactic esters are chosen from glyceryl monothiolactate.

25 (previously presented) A composition according to Claim 11, wherein said surface-active agents are chosen from alkyl sulphates; alkylbenzenesulphates; alkyl ether sulphates; alkylsulphonates; quaternary ammonium salts; alkyl betaines; oxyethylenated alkylphenols; fatty acid alkanolamides; oxyethylenated fatty acid esters; and nonionic surfactants comprising at least one hydroxypropyl ether group.

26 (previously presented) A composition according to Claim 11, wherein said treating agents are chosen from volatile linear silicones; volatile cyclic silicones; nonvolatile linear silicones; nonvolatile cyclic silicones; polydimethylsiloxanes; quaternized polyorganosiloxanes; polyorganosiloxanes with at least one aminoalkyl group modified by at least one alkoxy-carbonylalkyl group; polyorganosiloxanes; polydimethylsiloxanes with stearoxy end groups (stearoxy dimethicone); polydimethylsiloxane-dialkylammonium acetate copolymers; polydimethylsiloxane-poly(alkyl betaine) copolymers; polysiloxanes organomodified by at least one group chosen from mercapto groups and mercaptoalkyl groups; silanes; cationic polymers; basic amino acids; acidic amino acids; peptides; derivatives of peptides; protein hydrolysates; waxes; swelling agents; penetrating agents; agents which make it possible to reinforce the effectiveness of said at least one reducing agent; dimethylisorbitol; urea; derivatives of urea; pyrrolidone; N-alkylpyrrolidones;

thiamorpholinone; alkyl ethers of alkylene glycol; alkyl ethers of dialkylene glycol; C<sub>3</sub> to C<sub>6</sub> alkanediols; and 2-imidazolidinone.

27. (previously presented) A composition according to Claim 26, wherein said polyorganosiloxanes are chosen from polydimethylsiloxane-polyoxyalkyl copolymers.

28. (previously presented) A composition according to Claim 26, wherein said silanes are chosen from stearoxytrimethylsilane.

29. (previously presented) A composition according to Claim 26, wherein said cationic polymers are chosen from cationic polymers derived from ionene.

30. (previously presented) A composition according to Claim 26, wherein said basic amino acids are chosen from lysine and arginine.

31. (previously presented) A composition according to Claim 26, wherein said acidic amino acids are chosen from glutamic acid and aspartic acid.

32. (previously presented) A composition according to Claim 26, wherein said agents which make it possible to reinforce the effectiveness of said at least one reducing agent are chose from SiO<sub>2</sub>/polydimethylsiloxane mixtures.

33. (previously presented) A composition according to Claim 26, wherein said alkyl ethers of alkylene glycol are chosen from propylene glycol monomethyl ether, and ethylene glycol monoethyl ether.

34. (previously presented) A composition according to Claim 26, wherein said alkyl ethers of dialkylene glycol are chosen from dipropylene glycol monomethyl ether and diethylene glycol monoethyl ether.

35. (previously presented) A composition according to Claim 26, wherein said C<sub>3</sub> to C<sub>6</sub> alkanediols are chosen from 1,2-propanediol and 1,2-butanediol.

36. (previously presented) A composition according to Claim 11, wherein said active ingredients are chosen from panthothenic acid.

37. (previously presented) A composition according to Claim 11, wherein said composition is a lotion, optionally thickened, a cream, or a gel.

38. (previously presented) A composition according to Claim 11, wherein said composition is an exothermic composition.

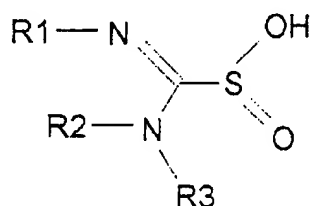
39. (previously presented) A composition according to Claim 11, further comprising water.



41. (previously presented) A composition according to Claim 40, wherein said at least one solvent is chosen from ethanol, propanol, butanol, isopropanol, and glycerol.

42. (previously presented) A composition according to Claim 40, wherein said at least one solvent is present in an amount ranging up to 20% by weight with respect to the total weight of said composition.

43. (withdrawn-currently amended) A reducing composition for permanent deformation of hair comprising at least one reducing agent chosen from N-substituted formamidinesulphinic acid derivatives of formula (I), the inorganic salts thereof, and the organic salts thereof:



wherein:

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groups; guanidino groups; C<sub>1</sub> to C<sub>8</sub> linear alkyl groups; C<sub>1</sub> to C<sub>8</sub> branched alkyl groups; C<sub>2</sub> to C<sub>8</sub> linear alkenyl groups; C<sub>2</sub> to C<sub>8</sub> branched alkenyl groups; C<sub>7</sub> to C<sub>20</sub> aralkyl groups; and ~~C<sub>3</sub> to C<sub>20</sub> rings, optionally chosen from aromatic rings, and optionally comprising at least one heteroatom chosen from halogens, nitrogen, oxygen, and sulphur~~ phenyl groups optionally substituted by at least one group chosen from halogens, C<sub>1</sub> to C<sub>4</sub> alkyl groups, C<sub>1</sub> to C<sub>4</sub> alkoxy groups, and hydroxyl groups;

wherein R<sub>1</sub>, R<sub>2</sub> and R<sub>3</sub> are each optionally substituted with at least one substituent chosen from hydroxyl groups; carboxyl groups; amino groups; amido groups; halogens; C<sub>1</sub> to C<sub>8</sub> linear alkyl groups; C<sub>1</sub> to C<sub>8</sub> branched alkyl groups; C<sub>1</sub> to C<sub>8</sub> linear alkoxy groups; C<sub>1</sub> to C<sub>8</sub> branched alkoxy groups; sulphonyl groups; sulphonate groups; phosphoryl groups; phosphate groups; C<sub>1</sub> to C<sub>8</sub> linear alkyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, and C<sub>1</sub> to C<sub>8</sub> alkoxy groups; C<sub>1</sub> to C<sub>8</sub> branched alkyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, and C<sub>1</sub> to C<sub>8</sub> alkoxy groups; C<sub>2</sub> to C<sub>8</sub> linear alkenyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, and C<sub>1</sub> to C<sub>8</sub> alkoxy groups; C<sub>2</sub> to C<sub>8</sub> branched alkenyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, and C<sub>1</sub> to C<sub>8</sub> alkoxy groups; and C<sub>7</sub> to C<sub>20</sub> aralkyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, and C<sub>1</sub> to C<sub>8</sub> alkoxy groups;



groups; guanidino groups; C<sub>1</sub> to C<sub>8</sub> linear alkyl groups; C<sub>1</sub> to C<sub>8</sub> branched alkyl groups; C<sub>2</sub> to C<sub>8</sub> linear alkenyl groups; C<sub>2</sub> to C<sub>8</sub> branched alkenyl groups; C<sub>7</sub> to C<sub>20</sub> aralkyl groups; and ~~C<sub>3</sub> to C<sub>20</sub> rings, optionally chosen from aromatic rings, and optionally comprising at least one heteroatom chosen from halogens, nitrogen, oxygen, and sulphur~~ phenyl groups optionally substituted by at least one group chosen from halogens, C<sub>1</sub> to C<sub>4</sub> alkyl groups, C<sub>1</sub> to C<sub>4</sub> alkoxy groups, and hydroxyl groups;

wherein R<sub>1</sub>, R<sub>2</sub> and R<sub>3</sub> are each optionally substituted with at least one substituent chosen from hydroxyl groups, carboxyl groups, amino groups, amido groups, halogen groups, C<sub>1</sub> to C<sub>8</sub> linear alkyl groups, C<sub>1</sub> to C<sub>8</sub> branched alkyl groups, C<sub>1</sub> to C<sub>8</sub> linear alkoxy groups, and C<sub>1</sub> to C<sub>8</sub> branched alkoxy groups; and

(b) at least one of R<sub>1</sub>, R<sub>2</sub>, and R<sub>3</sub> is chosen from amino groups; C<sub>1</sub> to C<sub>8</sub> aminoalkyl groups; C<sub>1</sub> to C<sub>8</sub> linear alkyl groups; C<sub>1</sub> to C<sub>8</sub> branched alkyl groups; C<sub>2</sub> to C<sub>8</sub> linear alkenyl groups; C<sub>2</sub> to C<sub>8</sub> branched alkenyl groups; C<sub>7</sub> to C<sub>20</sub> aralkyl groups; and ~~C<sub>3</sub> to C<sub>20</sub> rings, optionally chosen from aromatic rings, and optionally comprising at least one heteroatom chosen from halogens, nitrogen, oxygen, and sulphur~~ phenyl groups optionally substituted by at least one group chosen from halogens, C<sub>1</sub> to C<sub>4</sub> alkyl groups, C<sub>1</sub> to C<sub>4</sub> alkoxy groups, and hydroxyl groups;

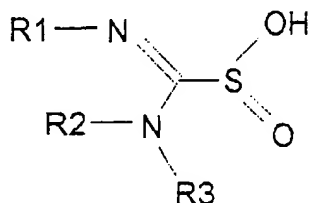
wherein said at least one of R<sub>1</sub>, R<sub>2</sub> and R<sub>3</sub> is optionally substituted with at least one group chosen from sulphonyl groups; sulphonate groups; phosphonyl groups; phosphate groups; amino groups; C<sub>1</sub> to C<sub>8</sub> linear alkoxy groups; C<sub>1</sub> to C<sub>8</sub> branched alkoxy groups; C<sub>1</sub> to C<sub>8</sub> linear alkyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, C<sub>1</sub> to C<sub>8</sub> linear alkoxy groups, and C<sub>1</sub> to C<sub>8</sub> branched alkoxy

groups; C<sub>1</sub> to C<sub>8</sub> branched alkyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, C<sub>1</sub> to C<sub>8</sub> linear alkoxy groups, and C<sub>1</sub> to C<sub>8</sub> branched alkoxy groups; C<sub>2</sub> to C<sub>8</sub> linear alkenyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, C<sub>1</sub> to C<sub>8</sub> linear alkoxy groups, and C<sub>1</sub> to C<sub>8</sub> branched alkoxy groups; C<sub>2</sub> to C<sub>8</sub> branched alkenyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, C<sub>1</sub> to C<sub>8</sub> linear alkoxy groups, and C<sub>1</sub> to C<sub>8</sub> branched alkoxy groups; and C<sub>7</sub> to C<sub>20</sub> aralkyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, C<sub>1</sub> to C<sub>8</sub> linear alkoxy groups, and C<sub>1</sub> to C<sub>8</sub> branched alkoxy groups;

with the proviso that when R<sub>1</sub> is hydrogen or C<sub>1</sub> to C<sub>4</sub> alkyl, then R<sub>2</sub> and R<sub>3</sub> are not simultaneously hydrogen, or hydrogen and C<sub>1</sub> to C<sub>4</sub> alkyl,

the composition further comprising at least one additive chosen from reducing agents other than said at least one reducing agent; surface-active agents chosen from nonionic surface-active agents, anionic surface-active agents, cationic surface-active agents, and amphoteric surface-active agents; treating agents chosen from cationic treating agents, anionic treating agents, nonionic treating agents, and amphoteric treating agents; fatty alcohols; lanolin derivatives; active ingredients; agents for combating hair loss; antidandruff agents; thickeners; suspending agents; sequestering agents; opacifying agents; colorants; sunscreen agents; fragrances; and preservatives.

45. (withdrawn-currently amended) A process for permanent deformation of hair comprising applying at least one reducing composition comprising at least one reducing agent chosen from N-substituted formamidinesulphinic acid derivatives of formula (I), the inorganic salts thereof, and the organic salts thereof:



(I)

wherein:

R1, R2, and R3, which are identical or different, are each chosen from hydrogen; amino groups; C<sub>1</sub> to C<sub>8</sub> aminoiminoalkyl groups; imino groups; C<sub>1</sub> to C<sub>8</sub> aminoalkyl groups; guanidino groups; C<sub>1</sub> to C<sub>8</sub> linear alkyl groups; C<sub>1</sub> to C<sub>8</sub> branched alkyl groups; C<sub>2</sub> to C<sub>8</sub> linear alkenyl groups; C<sub>2</sub> to C<sub>8</sub> branched alkenyl groups; C<sub>7</sub> to C<sub>20</sub> aralkyl groups; and ~~C<sub>3</sub> to C<sub>20</sub> rings, optionally chosen from aromatic rings, and optionally comprising at least one heteroatom chosen from halogens, nitrogen, oxygen, and sulphur~~ phenyl groups optionally substituted by at least one group chosen from halogens, C<sub>1</sub> to C<sub>4</sub> alkyl groups, C<sub>1</sub> to C<sub>4</sub> alkoxy groups, and hydroxyl groups; and

wherein said R1, R2, and R3 are optionally substituted;

with the proviso that when R1 is hydrogen or C<sub>1</sub> to C<sub>4</sub> alkyl, then R2 and R3 are not simultaneously hydrogen, or hydrogen and C<sub>1</sub> to C<sub>4</sub> alkyl,

the composition further comprising at least one additive chosen from reducing agents other than said at least one reducing agent; surface-active agents chosen from

nonionic surface-active agents, anionic surface-active agents, cationic surface-active agents, and amphoteric surface-active agents; treating agents chosen from cationic treating agents, anionic treating agents, nonionic treating agents, and amphoteric treating agents; fatty alcohols; lanolin derivatives; active ingredients; agents for combating hair loss; antidandruff agents; thickeners; suspending agents; sequestering agents; opacifying agents; colorants; sunscreen agents; fragrances; and preservatives.

46. (withdrawn) A process according to Claim 45, further comprising shaping said hair.

47. (withdrawn) A process according to Claim 46, wherein said at least one reducing composition is applied before or after said shaping.

48. (withdrawn) A process according to Claim 46, wherein said at least one reducing composition is applied before and after said shaping.

49. (withdrawn) A process according to Claim 45, further comprising applying at least one setting composition.

50. (withdrawn) A process according to Claim 49, where said at least one setting composition is applied after application of said at least one reducing composition.

51. (withdrawn) A process according to Claim 45, further comprising rinsing said at least one reducing composition from said hair.

52. (withdrawn) A process according to Claim 45, further comprising rinsing said at least one setting composition from said hair.

53. (withdrawn) A process according to Claim 51, further comprising applying at least one composition other than said at least one reducing composition and said at least one setting composition.

54. (withdrawn) A process according to Claim 45, wherein said at least one reducing composition is applied to said hair for a sufficient period of time to reduce at least one disulphide bond of the keratin of said hair.

55. (withdrawn) A process according to Claim 45, wherein said sufficient period of time to reduce at least one disulphide bond of the keratin of said hair ranges from 5 minutes to 60 minutes.

56. (withdrawn) A process according to Claim 55, wherein said sufficient period of time to reduce at least one disulphide bond of the keratin of said hair ranges from 5 minutes to 30 minutes.



57. (withdrawn) A process according to Claim 53, further comprising applying at least one oxidizing composition to said hair.

58. (withdrawn) A process according to Claim 57, wherein said at least one oxidizing composition is applied to said hair after the application of said at least one reducing composition to said hair.

59. (withdrawn) A process according to Claim 58, wherein said at least one oxidizing composition is applied to said hair after said at least one reducing composition is rinsed from said hair.

60. (withdrawn) A process according to Claim 57, wherein said at least one oxidizing composition is applied to said hair for a sufficient period of time to reform at least one disulphide bond of the keratin of said hair.

61. (withdrawn) A process according to Claim 60, wherein said sufficient period of time to reform at least one disulphide bond of the keratin of said hair ranges from 2 minutes to 10 minutes.

62. (withdrawn) A process according to Claim 60, further comprising rinsing said hair after said a sufficient period of time to reform at least one disulphide bond of the keratin of said hair.

63. (withdrawn) A process according to Claim 57, wherein said at least one oxidizing composition comprises at least one oxidizing agent.

64. (withdrawn) A process according to Claim 63, wherein said at least one oxidizing agent is chosen from hydrogen peroxide; alkaline bromates; persalts; and polythionates.

65. (withdrawn) A process according to Claim 57, wherein said at least one oxidizing composition has a pH ranging from 2 to 10.

66. (withdrawn-currently amended) A process according to Claim 45, wherein said R1, R2, and R3, which are identical or different, are each chosen from hydrogen; linear C<sub>1</sub> to C<sub>6</sub> alkyl groups optionally substituted by at least one group chosen from hydroxyl groups, carboxyl groups, amino groups, sulphonyl groups, and phosphonyl groups; branched C<sub>1</sub> to C<sub>6</sub> alkyl groups optionally substituted by at least one group chosen from hydroxyl groups, carboxyl groups, amino groups, sulphonyl groups, and phosphonyl groups; phenyl groups optionally substituted by at least one group chosen from halogens, C<sub>1</sub> to C<sub>4</sub> alkyl groups, C<sub>1</sub> to C<sub>4</sub> alkoxy groups, and hydroxyl groups; ~~heterocycles~~; and guanidino groups.

67. (cancelled)

68. (withdrawn-currently amended) A process according to Claim 45, wherein said at least one reducing agent is chosen from:

- imino(methylamino)methanesulphinic acid;
- imino(propylamino)methanesulphinic acid;
- (dimethylamino)iminomethanesulphinic acid;
- (diethylamino)iminomethanesulphinic acid;
- (ethylamino)(ethylimino)methanesulphinic acid;
- (methylamino)(methylimino)methanesulphinic acid;
- (ethylamino)(ethylimino)methanesulphinic acid;
- (butylamino)(butylimino)methanesulphinic acid;
- (phenylamino)(phenylimino)methanesulphinic acid;
- (phenylmethylamino)(phenylmethylimino) methanesulphinic acid;
- (carboxymethylamino)iminomethanesulphinic acid;
- (2-carboxyethylamino)iminomethane sulphinic acid;
- (3-carboxypropylamino)iminomethane sulphinic acid;
- (5-carboxypentylamino)iminomethane sulphinic acid;
- (hydroxymethylamino)iminomethanesulphinic acid;
- (2-aminoethylamino)iminomethanesulphinic acid;
- imino(sulphonylmethylamino)methanesulphinic acid;
- imino(2-sulphonylpropylamino)methane sulphinic acid;
- imino(2-phosphonylmethylamino)methane sulphinic acid;
- imino(phenylamino)methanesulphinic acid;
- imino(4-methylphenylamino)methanesulphinic acid;

- imino(4-hydroxyphenylamino)methanesulphinic acid;
- imino(4-methoxyphenylamino)methanesulphinic acid;
- imino(2-chlorophenylamino)methanesulphinic acid;
- ~~\_\_\_\_\_imino(4-methyl-2-pyridylamino)methane-sulphinic acid;~~
- ~~\_\_\_\_\_imino(6-methyl-2-pyridylamino)methane-sulphinic acid;~~
- ~~\_\_\_\_\_imino(5-methyl-2-pyridylamino)methane-sulphinic acid;~~
- ~~\_\_\_\_\_imino(2-quinolylamino)methanesulphinic acid;~~
- ~~\_\_\_\_\_imino(3-quinolylamino)methanesulphinic acid;~~
- ~~\_\_\_\_\_ (methylimino)-2-pyridylaminomethane-sulphinic acid;~~
- ~~\_\_\_\_\_ (methylimino)[(3,4,5,6-tetrahydro-2-pyridyl)amino]methanesulphinic acid; and~~
- [(aminoiminomethyl)amino]iminomethane sulphinic acid.

69. (withdrawn) A process according to Claim 45, wherein said at least one reducing agent is chosen from:

- (carboxymethylamino)iminomethanesulphinic acid; and
- imino(phenylamino)methanesulphinic acid.

70. (withdrawn) A process according to Claim 45, wherein said at least one reducing agent is present in said at least one reducing composition in an amount ranging from 0.05% to 20% by weight with respect to the total weight of said composition.

71. (withdrawn) A process according to Claim 45, wherein said at least one reducing agent is present in said at least one reducing composition in an amount ranging from 0.1% to 8% by weight with respect to the total weight of said composition.

72. (withdrawn) A process according to Claim 45, wherein said at least one reducing composition has a pH ranging from 2 to 11.

73. (withdrawn) A process according to Claim 45, wherein said at least one reducing composition has a pH ranging from 7 to 10.

74. (canceled)

75. (withdrawn-currently amended) A process according to Claim ~~74~~45, wherein said reducing agents other than said at least one reducing agent are chosen from thioglycolic acid; glyceryl monothioglycolate; glycol monothioglycolate; cysteamine; C<sub>1</sub> to C<sub>4</sub> acylated derivatives of cysteamine; cysteine; N-acetylcysteine; N-mercaptoalkylamides of sugars;  $\beta$ -mercaptopropionic acid; derivatives of  $\beta$ -mercaptopropionic acid; thiolactic acid; thiolactic esters; thiomalic acid; pantheteine; thioglycerol; sulphites of at least one alkali metal; sulphites of at least one alkaline earth metal; bisulphites of at least one alkali metal; bisulphites of at least one alkaline earth metal; N-(mercaptoalkyl)-o-hydroxyalkylamides; N-monoalkylmercapto-4-butyramides; N,N-dialkylmercapto-4-butyramides; aminomeraptoalkylamides; and alkylaminomeraptoalkylamides.

76. (withdrawn-currently amended) A process according to Claim ~~74~~45, wherein said derivatives of cysteamine are chosen from N-acetylcysteamine and N-propionylcysteamine.

77. (withdrawn-currently amended) A process according to Claim ~~74~~45, wherein said N-mercaptoalkylamides of sugars are chosen from N-(2-mercaptoethyl)-gluconamide.

78. (withdrawn) A process according to Claim 75, wherein said thioalactic esters are chosen from glyceryl monothiolactate.

79. (withdrawn-currently amended) A process according to Claim ~~74~~45, wherein said surface-active agents are chosen from alkyl sulphates; alkylbenzenesulphates; alkyl ether sulphates; alkylsulphonates; quaternary ammonium salts; alkyl betaines; oxyethylenated alkylphenols; fatty acid alkanolamides; oxyethylenated fatty acid esters; and nonionic surfactants comprising at least one hydroxypropyl ether group.

80. (withdrawn-currently amended) A process according to Claim ~~74~~45, wherein said treating agents are chosen from volatile linear silicones; volatile cyclic silicones; nonvolatile linear silicones; nonvolatile cyclic silicones; polydimethylsiloxanes; quaternized polyorganosiloxanes; polyorganosiloxanes with at least one aminoalkyl

group modified by at least one alkoxy-carbonylalkyl group; polyorganosiloxanes; polydimethylsiloxanes with stearoxy end groups (stearoxy dimethicone); polydimethylsiloxane-dialkylammonium acetate copolymers; polydimethylsiloxane-poly(alkyl betaine) copolymers; polysiloxanes organomodified by at least one group chosen from mercapto groups and mercaptoalkyl groups; silanes; cationic polymers; basic amino acids; acidic amino acids; peptides; derivatives of peptides; protein hydrolysates; waxes; swelling agents; penetrating agents; agents which make it possible to reinforce the effectiveness of said at least one reducing agent; dimethylisorbitol; urea; derivatives of urea; pyrrolidone; N-alkylpyrrolidones; thiamorpholinone; alkyl ethers of alkylene glycol; alkyl ethers of dialkylene glycol; C<sub>3</sub> to C<sub>6</sub> alkanediols; and 2-imidazolidinone.

81. (withdrawn) A process according to Claim 80, wherein said polyorganosiloxanes are chosen from polydimethylsiloxane-polyoxyalkyl copolymers.

82. (withdrawn) A process according to Claim 80, wherein said silanes are chosen from stearoxytrimethylsilane.

83. (withdrawn) A process according to Claim 80, wherein said cationic polymers are chosen from cationic polymers derived from ionene.

84. (withdrawn) A process according to Claim 80, wherein said basic amino acids are chosen from lysine and arginine.

85. (withdrawn) A process according to Claim 80, wherein said acidic amino acids are chosen from glutamic acid and aspartic acid.

86. (withdrawn) A process according to Claim 80, wherein said agents which make it possible to reinforce the effectiveness of said at least one reducing agent are chose from SiO<sub>2</sub>/polydimethylsiloxane mixtures.

87. (withdrawn) A process according to Claim 80, wherein said alkyl ethers of alkylene glycol are chosen from propylene glycol monomethyl ether, and ethylene glycol monoethyl ether.

88. (withdrawn) A process according to Claim 80, wherein said alkyl ethers of dialkylene glycol are chosen from dipropylene glycol monomethyl ether and diethylene glycol monoethyl ether.

89. (withdrawn) A process according to Claim 80, wherein said C<sub>3</sub> to C<sub>6</sub> alkanediols are chosen from 1,2-propanediol and 1,2-butanediol.

90. (withdrawn-currently amended) A process according to Claim ~~74~~45, wherein said active ingredients are chosen from panthothenic acid.



91. (withdrawn) A process according to Claim 45, wherein said at least one reducing composition is a lotion, optionally thickened, a cream, or a gel.

92. (withdrawn) A process according to Claim 45, wherein said at least one reducing composition is an exothermic composition.

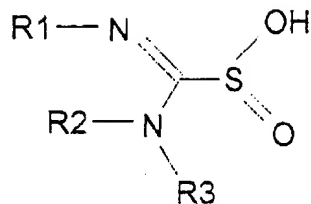
93. (withdrawn) A process according to Claim 45, wherein said at least one reducing composition further comprises water.

94. (withdrawn) A process according to Claim 45, wherein said at least one reducing composition comprises at least one solvent.

95. (withdrawn) A process according to Claim 94, wherein said at least one solvent is chosen from ethanol, propanol, butanol, isopropanol, and glycerol.

96. (withdrawn) A process according to Claim 94, wherein said at least one solvent is present in an amount ranging up to 20% by weight with respect to the total weight of said composition.

97. (withdrawn-currently amended) A process for permanent deformation of hair comprising applying at least one reducing composition comprising at least one reducing agent chosen from N-substituted formamidinesulphinic acid derivatives of formula (I), the inorganic salts thereof, and the organic salts thereof:



(I)

wherein:

R1, R2 and R3, which are identical or different, are each chosen from hydrogen; amino groups; C<sub>1</sub> to C<sub>8</sub> aminoiminoalkyl groups; imino groups; C<sub>1</sub> to C<sub>8</sub> aminoalkyl groups; guanidino groups; C<sub>1</sub> to C<sub>8</sub> linear alkyl groups; C<sub>1</sub> to C<sub>8</sub> branched alkyl groups; C<sub>2</sub> to C<sub>8</sub> linear alkenyl groups; C<sub>2</sub> to C<sub>8</sub> branched alkenyl groups; C<sub>7</sub> to C<sub>20</sub> aralkyl groups; and ~~C<sub>3</sub> to C<sub>20</sub> rings, optionally chosen from aromatic rings, and optionally comprising at least one heteroatom chosen from halogens, nitrogen, oxygen, and sulphur~~ phenyl groups optionally substituted by at least one group chosen from halogens, C<sub>1</sub> to C<sub>4</sub> alkyl groups, C<sub>1</sub> to C<sub>4</sub> alkoxy groups, and hydroxyl groups;

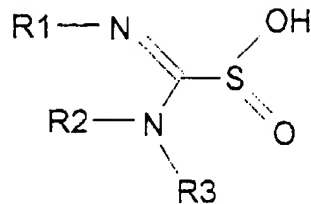
wherein R1, R2 and R3 are each optionally substituted with at least one substituent chosen from hydroxyl groups; carboxyl groups; amino groups; amido groups; halogens; C<sub>1</sub> to C<sub>8</sub> linear alkyl groups; C<sub>1</sub> to C<sub>8</sub> branched alkyl groups; C<sub>1</sub> to C<sub>8</sub> linear alkoxy groups; C<sub>1</sub> to C<sub>8</sub> branched alkoxy groups; sulphonyl groups; sulphonate groups; phosphoryl groups; phosphate groups; C<sub>1</sub> to C<sub>8</sub> linear alkyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, and C<sub>1</sub> to C<sub>8</sub> alkoxy groups; C<sub>1</sub> to C<sub>8</sub> branched alkyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups,

amino groups, and C<sub>1</sub> to C<sub>8</sub> alkoxy groups; C<sub>2</sub> to C<sub>8</sub> linear alkenyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, and C<sub>1</sub> to C<sub>8</sub> alkoxy groups; C<sub>2</sub> to C<sub>8</sub> branched alkenyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, and C<sub>1</sub> to C<sub>8</sub> alkoxy groups; and C<sub>7</sub> to C<sub>20</sub> aralkyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, and C<sub>1</sub> to C<sub>8</sub> alkoxy groups;

with the proviso that when R<sub>1</sub> is hydrogen or C<sub>1</sub> to C<sub>4</sub> alkyl, then R<sub>2</sub> and R<sub>3</sub> are not simultaneously hydrogen, or hydrogen and C<sub>1</sub> to C<sub>4</sub> alkyl,

the composition further comprising at least one additive chosen from reducing agents other than said at least one reducing agent; surface-active agents chosen from nonionic surface-active agents, anionic surface-active agents, cationic surface-active agents, and amphoteric surface-active agents; treating agents chosen from cationic treating agents, anionic treating agents, nonionic treating agents, and amphoteric treating agents; fatty alcohols; lanolin derivatives; active ingredients; agents for combating hair loss; antidandruff agents; thickeners; suspending agents; sequestering agents; opacifying agents; colorants; sunscreen agents; fragrances; and preservatives.

98. (withdrawn-currently amended) A kit comprising, in a first compartment, an oxidizing composition, and, in a second compartment, a reducing composition comprising at least one reducing agent chosen from N-substituted formamidinesulphonic acid derivatives of formula (I), the inorganic salts thereof, and the organic salts thereof:



(I)

wherein:

R1, R2, and R3, which are identical or different, are each chosen from hydrogen; amino groups; C<sub>1</sub> to C<sub>8</sub> aminoiminoalkyl groups; imino groups; C<sub>1</sub> to C<sub>8</sub> aminoalkyl groups; guanidino groups; C<sub>1</sub> to C<sub>8</sub> linear alkyl groups; C<sub>1</sub> to C<sub>8</sub> branched alkyl groups; C<sub>2</sub> to C<sub>8</sub> linear alkenyl groups; C<sub>2</sub> to C<sub>8</sub> branched alkenyl groups; C<sub>7</sub> to C<sub>20</sub> aralkyl groups; and ~~C<sub>3</sub> to C<sub>20</sub> rings, optionally chosen from aromatic rings, and optionally comprising at least one heteroatom chosen from halogens, nitrogen, oxygen, and sulphur~~ phenyl groups optionally substituted by at least one group chosen from halogens, C<sub>1</sub> to C<sub>4</sub> alkyl groups, C<sub>1</sub> to C<sub>4</sub> alkoxy groups, and hydroxyl groups; and

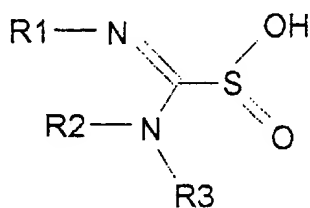
wherein said R1, R2, and R3 are optionally substituted;

with the proviso that when R1 is hydrogen or C<sub>1</sub> to C<sub>4</sub> alkyl, then R2 and R3 are not simultaneously hydrogen, or hydrogen and C<sub>1</sub> to C<sub>4</sub> alkyl,

the reducing composition further comprising at least one additive chosen from reducing agents other than said at least one reducing agent; surface-active agents chosen from nonionic surface-active agents, anionic surface-active agents, cationic surface-active agents, and amphoteric surface-active agents; treating agents chosen from cationic treating agents, anionic treating agents, nonionic treating agents, and amphoteric treating agents; fatty alcohols; lanolin derivatives; active ingredients; agents

for combating hair loss; antidandruff agents; thickeners; suspending agents; sequestering agents; opacifying agents; colorants; sunscreen agents; fragrances; and preservatives.

99. (withdrawn-currently amended) A kit comprising, in a first compartment, an oxidizing composition, and, in a second compartment, a reducing composition comprising at least one reducing agent chosen from N-substituted formamidinesulphinic acid derivatives of formula (I), the inorganic salts thereof, and the organic salts thereof:



(I)

wherein:

R1, R2 and R3, which may be identical or different, are each chosen from hydrogen; amino groups; C<sub>1</sub> to C<sub>8</sub> aminoiminoalkyl groups; imino groups; C<sub>1</sub> to C<sub>8</sub> aminoalkyl groups; guanidino groups; C<sub>1</sub> to C<sub>8</sub> linear alkyl groups; C<sub>1</sub> to C<sub>8</sub> branched alkyl groups; C<sub>2</sub> to C<sub>8</sub> linear alkenyl groups; C<sub>2</sub> to C<sub>8</sub> branched alkenyl groups; C<sub>7</sub> to C<sub>20</sub> aralkyl groups; and ~~C<sub>3</sub> to C<sub>20</sub> rings, optionally chosen from aromatic rings, and optionally comprising at least one heteroatom chosen from halogens, nitrogen, oxygen, and sulphur~~ phenyl groups optionally substituted by at least one group chosen from halogens, C<sub>1</sub> to C<sub>4</sub> alkyl groups, C<sub>1</sub> to C<sub>4</sub> alkoxy groups, and hydroxyl groups;

wherein R1, R2 and R3 are each optionally substituted with at least one substituent chosen from hydroxyl groups; carboxyl groups; amino groups; amido

groups; halogens; C<sub>1</sub> to C<sub>8</sub> linear alkyl groups; C<sub>1</sub> to C<sub>8</sub> branched alkyl groups; C<sub>1</sub> to C<sub>8</sub> linear alkoxy groups; C<sub>1</sub> to C<sub>8</sub> branched alkoxy groups; sulphonyl groups; sulphonate groups; phosphonyl groups; phosphate groups; C<sub>1</sub> to C<sub>8</sub> linear alkyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, and C<sub>1</sub> to C<sub>8</sub> alkoxy groups; C<sub>1</sub> to C<sub>8</sub> branched alkyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, and C<sub>1</sub> to C<sub>8</sub> alkoxy groups; C<sub>2</sub> to C<sub>8</sub> linear alkenyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, and C<sub>1</sub> to C<sub>8</sub> alkoxy groups; C<sub>2</sub> to C<sub>8</sub> branched alkenyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, and C<sub>1</sub> to C<sub>8</sub> alkoxy groups; and C<sub>7</sub> to C<sub>20</sub> aralkyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, and C<sub>1</sub> to C<sub>8</sub> alkoxy groups;

with the proviso that when R<sub>1</sub> is hydrogen or C<sub>1</sub> to C<sub>4</sub> alkyl, then R<sub>2</sub> and R<sub>3</sub> are not simultaneously hydrogen, or hydrogen and C<sub>1</sub> to C<sub>4</sub> alkyl,

the composition further comprising at least one additive chosen from reducing agents other than said at least one reducing agent; surface-active agents chosen from nonionic surface-active agents, anionic surface-active agents, cationic surface-active agents, and amphoteric surface-active agents; treating agents chosen from cationic treating agents, anionic treating agents, nonionic treating agents, and amphoteric treating agents; fatty alcohols; lanolin derivatives; active ingredients; agents for

combating hair loss; antidandruff agents; thickeners; suspending agents; sequestering agents; opacifying agents; colorants; sunscreen agents; fragrances; and preservatives.

100. (withdrawn) A compound (carboxymethylamino)iminomethanesulphinic acid.